

【Outstanding Academic Research Meeting 2-3】
Therapeutic Targeting of Common Pathway in Obesity and Type 2 Diabetes -
The CCR5-mediated signaling

Po-Shiuan Hsieh

Graduate Institute of Medical Sciences, National Defense Medical Center, Taipei, Taiwan

Type II diabetes mellitus (T2DM) and obesity are two prevalent conditions associated with metabolic syndrome, a cluster of metabolic dysfunctions caused by a sedentary lifestyle and overnutrition. The downstream effects of obesity have been linked to the development of T2DM. Our studies indicate that the augmentation of CCR5 expression in both brown and white adipose tissues significantly contributes to impaired energy expenditure and insulin sensitivity in high-fat diet-induced obese mice. Additionally, enhanced CCR5 signaling has also shown to play a crucial role in the pathogenesis of obesity-associated impaired insulin secretion. Based on our findings, it is speculated that the inhibition of the CCR5 signaling could potentially be developed into dual-acting drugs aimed at alleviating obesity-associated energy and glucose dysregulation, as well as impaired insulin secretion, concomitantly retard the progression of obesity and T2DM.

